SEQUENCE LISTING

(1)   GENERAL INFORMATION:
    (i)   APPLICANT: Yechezkel Kashi et al.
    (ii)   TITLE OF INVENTION: ABUNDANT, WELL DISTRIBUTED AND
                                                HYPERPOLYMORPHIC SIMPLE SEQUENCE REPEATS
                                                IN PROKARYOTE GENOMES AND USE OF SAME FOR
                                                PROKARYOTE CLASSIFICATION AND TYPING
    (iii)   NUMBER OF SEQUENCES: 42
    (iv)   CORRESPONDENCE ADDRESS:
        (A)   ADDRESSEE: Mark M. Friedman c/o Anthony Castorina
        (B)   STREET: 2001 Jefferson Davis Highway, Suite 207
        (C)   CITY: Arlington
        (D)   STATE: Virginia
        (E)   COUNTRY: United States of America
        (F)   ZIP: 22202
    (v)   COMPUTER READABLE FORM:
        (A)   MEDIUM TYPE: 1.44 megabyte, 3.5" microdisk
        (B)   COMPUTER: Twinhead® Slimnote-890TX
        (C)   OPERATING SYSTEM: MS DOS version 6.2,
                              Windows version 3.11
        (D)   SOFTWARE: Word for Windows version 2.0 converted to
                              an ASCI file
    (vi)   CURRENT APPLICATION DATA:
        (A)   APPLICATION NUMBER:
        (B)   FILING DATE:
        (C)   CLASSIFICATION:
    (vii)   PRIOR APPLICATION DATA:
        (A)   APPLICATION NUMBER:
        (B)   FILING DATE:
    (viii)   ATTORNEY/AGENT INFORMATION:
        (A)   NAME: Friedmam, Mark M.
        (B)   REGISTRATION NUMBER: 33,883
        (C)   REFERENCE/DOCKET NUMBER: 910/8
    (ix)   TELECOMMUNICATION INFORMATION:
        (A)   TELEPHONE: 972-3-5625553
        (B)   TELEFAX: 972-3-5625554
        (C)   TELEX:

(2)   INFORMATION FOR SEQ ID NO:1:
    (i)   SEQUENCE CHARACTERISTICS:
        (A)   LENGTH: 23
        (B)   TYPE: nucleic acid
        (C)   STRANDEDNESS: single
        (D)   TOPOLOGY: linear
    (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:1:
GATTTTGCAT ATGAGTATAT TAC 23

(2)   INFORMATION FOR SEQ ID NO:2:
    (i)   SEQUENCE CHARACTERISTICS:
        (A)   LENGTH: 21
        (B)   TYPE: nucleic acid
        (C)   STRANDEDNESS: single
        (D)   TOPOLOGY: linear
    (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:2:
TTAATTACAG GATGTTCAGT C 21

(2)   INFORMATION FOR SEQ ID NO:2:
    (i)   SEQUENCE CHARACTERISTICS:

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                    (A)     LENGTH:         21
                    (B)     TYPE:           nucleic acid
                    (C)     STRANDEDNESS:   single
                    (D)     TOPOLOGY:       linear
            (xi)    SEQUENCE DESCRIPTION:   SEQ ID NO:3:
AATTTATCCG GTGAATGTGG T 21


(2)     INFORMATION FOR SEQ ID NO:4:
            (i)     SEQUENCE CHARACTERISTICS:
                    (A)     LENGTH:         20
                    (B)     TYPE:           nucleic acid
                    (C)     STRANDEDNESS:   single
                    (D)     TOPOLOGY:       linear
            (xi)    SEQUENCE DESCRIPTION:   SEQ ID NO:4:
CAACTTAATC TCGGGCTGAC 20


(2)     INFORMATION FOR SEQ ID NO:5:
            (i)     SEQUENCE CHARACTERISTICS:
                    (A)     LENGTH:         20
                    (B)     TYPE:           nucleic acid
                    (C)     STRANDEDNESS:   single
                    (D)     TOPOLOGY:       linear
            (xi)    SEQUENCE DESCRIPTION:   SEQ ID NO:5:
TACATGGCTG ATTATGCGG 20


(2)     INFORMATION FOR SEQ ID NO:6:
            (i)     SEQUENCE CHARACTERISTICS:
                    (A)     LENGTH:         21
                    (B)     TYPE:           nucleic acid
                    (C)     STRANDEDNESS:   single
                    (D)     TOPOLOGY:       linear
            (xi)    SEQUENCE DESCRIPTION:   SEQ ID NO:6:
TCGCTATGAA TATCTACTGA C 21


(2)     INFORMATION FOR SEQ ID NO:7:
            (i)     SEQUENCE CHARACTERISTICS:
                    (A)     LENGTH:         20
                    (B)     TYPE:           nucleic acid
                    (C)     STRANDEDNESS:   single
                    (D)     TOPOLOGY:       linear
            (xi)    SEQUENCE DESCRIPTION:   SEQ ID NO:7:
GTCAGAGCAG ATCCAGAATG 20


(2)     INFORMATION FOR SEQ ID NO:8:
            (i)     SEQUENCE CHARACTERISTICS:
                    (A)     LENGTH:         20
                    (B)     TYPE:           nucleic acid
                    (C)     STRANDEDNESS:   single
                    (D)     TOPOLOGY:       linear
            (xi)    SEQUENCE DESCRIPTION:   SEQ ID NO:8:
TCTACAGCAA ATGAACAATG 20


(2)     INFORMATION FOR SEQ ID NO:9:
            (i)     SEQUENCE CHARACTERISTICS:
                    (A)     LENGTH:         20
                    (B)     TYPE:           nucleic acid
                    (C)     STRANDEDNESS:   single
                    (D)     TOPOLOGY:       linear
```

(xi)   SEQUENCE DESCRIPTION: SEQ ID NO:9:

GGTCATCAGG TGAAATAATC 20

(2)   INFORMATION FOR SEQ ID NO:10:
     (i)   SEQUENCE CHARACTERISTICS:
        (A)   LENGTH: 21
        (B)   TYPE: nucleic acid
        (C)   STRANDEDNESS: single
        (D)   TOPOLOGY: linear
     (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:10:

CGTCCTGATA GATAAAGTGT C 21

(2)   INFORMATION FOR SEQ ID NO:11:
     (i)   SEQUENCE CHARACTERISTICS:
        (A)   LENGTH: 20
        (B)   TYPE: nucleic acid
        (C)   STRANDEDNESS: single
        (D)   TOPOLOGY: linear
     (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:11:

CAATGGAACT TACCAATGAC 20

(2)   INFORMATION FOR SEQ ID NO:12:
     (i)   SEQUENCE CHARACTERISTICS:
        (A)   LENGTH: 20
        (B)   TYPE: nucleic acid
        (C)   STRANDEDNESS: single
        (D)   TOPOLOGY: linear
     (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:12:

TACCGCGAAG AATTCAACAC 20

(2)   INFORMATION FOR SEQ ID NO:13:
     (i)   SEQUENCE CHARACTERISTICS:
        (A)   LENGTH: 20
        (B)   TYPE: nucleic acid
        (C)   STRANDEDNESS: single
        (D)   TOPOLOGY: linear
     (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:13:

AGCATCAGCG CACAATGCAC 20

(2)   INFORMATION FOR SEQ ID NO:14:
     (i)   SEQUENCE CHARACTERISTICS:
        (A)   LENGTH: 20
        (B)   TYPE: nucleic acid
        (C)   STRANDEDNESS: single
        (D)   TOPOLOGY: linear
     (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:14:

TGTATGCAGG CTGGCACAAC 20

(2)   INFORMATION FOR SEQ ID NO:15:
     (i)   SEQUENCE CHARACTERISTICS:
        (A)   LENGTH: 20
        (B)   TYPE: nucleic acid
        (C)   STRANDEDNESS: single
        (D)   TOPOLOGY: linear
     (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:15:

ATAACGATCT CCATATCTAC 20

(2)   INFORMATION FOR SEQ ID NO:16:

    (i)   SEQUENCE CHARACTERISTICS:
            (A)   LENGTH: 20
            (B)   TYPE: nucleic acid
            (C)   STRANDEDNESS: single
            (D)   TOPOLOGY: linear
    (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:16:
CTCTATCAGC AACTTCTGCC 20

(2)   INFORMATION FOR SEQ ID NO:17:
        (i)   SEQUENCE CHARACTERISTICS:
                (A)   LENGTH: 20
                (B)   TYPE: nucleic acid
                (C)   STRANDEDNESS: single
                (D)   TOPOLOGY: linear
        (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:17:
ATCCGCAGGA TTTTCGCACC 20

(2)   INFORMATION FOR SEQ ID NO:18:
        (i)   SEQUENCE CHARACTERISTICS:
                (A)   LENGTH: 20
                (B)   TYPE: nucleic acid
                (C)   STRANDEDNESS: single
                (D)   TOPOLOGY: linear
        (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:18:
TGCCAGCGTA AATCCGCAAC 20

(2)   INFORMATION FOR SEQ ID NO:19:
        (i)   SEQUENCE CHARACTERISTICS:
                (A)   LENGTH: 2
                (B)   TYPE: nucleic acid
                (C)   STRANDEDNESS: double
                (D)   TOPOLOGY: linear
        (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:19:
GT 2

(2)   INFORMATION FOR SEQ ID NO:20:
        (i)   SEQUENCE CHARACTERISTICS:
                (A)   LENGTH: 2
                (B)   TYPE: nucleic acid
                (C)   STRANDEDNESS: double
                (D)   TOPOLOGY: linear
        (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:20:
TC 2

(2)   INFORMATION FOR SEQ ID NO:21:
        (i)   SEQUENCE CHARACTERISTICS:
                (A)   LENGTH: 3
                (B)   TYPE: nucleic acid
                (C)   STRANDEDNESS: double
                (D)   TOPOLOGY: linear
        (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:21:
CGG 3

(2)   INFORMATION FOR SEQ ID NO:22:
        (i)   SEQUENCE CHARACTERISTICS:
                (A)   LENGTH: 3
                (B)   TYPE: nucleic acid
                (C)   STRANDEDNESS: double

```
            (D)     TOPOLOGY:       linear
      (xi)   SEQUENCE DESCRIPTION:  SEQ ID NO:22:
GGT 3


(2)    INFORMATION FOR SEQ ID NO:23:
       (i)     SEQUENCE CHARACTERISTICS:
               (A)    LENGTH:        4
               (B)    TYPE:          nucleic acid
               (C)    STRANDEDNESS:  double
               (D)    TOPOLOGY:      linear
       (xi)   SEQUENCE DESCRIPTION:  SEQ ID NO:23:
ATTA 4


(2)    INFORMATION FOR SEQ ID NO:24:
       (i)     SEQUENCE CHARACTERISTICS:
               (A)    LENGTH:        4
               (B)    TYPE:          nucleic acid
               (C)    STRANDEDNESS:  double
               (D)    TOPOLOGY:      linear
       (xi)   SEQUENCE DESCRIPTION:  SEQ ID NO:24:
CTGG 4


(2)    INFORMATION FOR SEQ ID NO:25:
       (i)     SEQUENCE CHARACTERISTICS:
               (A)    LENGTH:        259
               (B)    TYPE:          nucleic acid
               (C)    STRANDEDNESS:  double
               (D)    TOPOLOGY:      linear
       (xi)   SEQUENCE DESCRIPTION:  SEQ ID NO:25:
GTTATGTCTT ATCCCACGGT ATTTAATATG GTTCATTAGG ATGTTTATTT    50
CTTGATTTTG CATATGAGTA TATTACCCCC CCCTCAAAAA AATAAATTAA   100
TTAAAATGAT GGCTTATATA AAATAAAATT TAAAGCAAGG AATCTCAATG   150
GATGTTAAAC AAAAATGAGAT TTTGTGAAAG CAATAAATTA TTGACTTCGT  200
TTTAGATTTG TTTAGCTATA ATGTTATACA TTCAAATGAC TGAACATCCT   250
GTAATTAAA                                                259


(2)    INFORMATION FOR SEQ ID NO:26:
       (i)     SEQUENCE CHARACTERISTICS:
               (A)    LENGTH:        256
               (B)    TYPE:          nucleic acid
               (C)    STRANDEDNESS:  double
               (D)    TOPOLOGY:      linear
       (xi)   SEQUENCE DESCRIPTION:  SEQ ID NO:26:
TTGTTATGTC TTATCCCACG GTATTTAATA TAGTTCATTT GGATGTTCAT    50
TTCTTTATTT TGCATATGAG TATATTACCC CTTCAAAAAA TAAATTAATT   100
AAAACGATTG CTTATATAAA ACAAAATTTA AAGCAAGGAA TCTCAATGGA   150
TGTTAAACAA AATGAGATTT AGTGAAAACA ATAAATTATT CACTTCGTTT   200
TAGATTTGTT TAGCTATAAT GTTATACATT CAAATGACTG AACATCCTGT   250
ATTTAA                                                   256


(2)    INFORMATION FOR SEQ ID NO:27:
       (i)     SEQUENCE CHARACTERISTICS:
               (A)    LENGTH:        257
               (B)    TYPE:          nucleic acid
               (C)    STRANDEDNESS:  double
               (D)    TOPOLOGY:      linear
       (xi)   SEQUENCE DESCRIPTION:  SEQ ID NO:27:
TTTGTTATGT CTTATCCCAC GGTATTTAAT ATAGTTCATT TGGATGTTCA    50
```

```
TTTCTTTATT TTGCATATGA GTATATTACC CCTTCAAAAA ATAAATTAAT    100
TAAAACGATT GCTTATATAA AACAAAATTT AAAGCAAGGA ATCTCAATGG    150
ATGTTAAACA AAATGAGATT TAGTGAAAAC AATAAATTAT TCACTTCGTT    200
TTAGATTTGT TTAGCTATAA TGTTATACAT TCAAATGACT GAACATCCTG    250
TAATTAA                                                  257
```

(2)   INFORMATION FOR SEQ ID NO:28:
    (i)   SEQUENCE CHARACTERISTICS:
        (A)   LENGTH: 263
        (B)   TYPE: nucleic acid
        (C)   STRANDEDNESS: double
        (D)   TOPOLOGY: linear
    (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:28:

```
TCTATGTTCT TATCNCCACG GTXTTTAATA TGGTTCATTA GGATGTTTAT    50
TTCTTGATTT TGCATATGAG TATATTACCC CCCCCCCTCA AAAAAATAAA    100
TTAATTAAAA TGATGGCTTA TATXAAATAX AATTTAAAGC AAGGAXTCTC    150
AATGGATGTT AAACAXAATG AGATTTTGTG AAXGCXATXX ATTATTGXCT    200
TCGTTGTAXA TTTGCTXAGC TATAATGTTA TXCATTCAAA TGACTGAACA    250
TCCTGTXXTT AXA                                           263
```

(2)   INFORMATION FOR SEQ ID NO:29:
    (i)   SEQUENCE CHARACTERISTICS:
        (A)   LENGTH: 264
        (B)   TYPE: nucleic acid
        (C)   STRANDEDNESS: double
        (D)   TOPOLOGY: linear
    (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:29:

```
XXXXXTXTXX XTXXXCCCAC GGTATTTAAT ATXGTTCATT XGGATGTTXA    50
TTTCTTXATT TTGCATATGA GTATATTAXX XXXXCCCCTX XAAAAAATAA    100
ATTAATTAAA AXGATXGCTT ATATAAAAXA AAATTTAAAG CAAGGAATCT    150
CAATGGATGT TAAACAAAAT GAGATTTXGT GAAAXCAATA AATTATTXAC    200
TTCGTTXTAG ATTTGXTTAG CTATAATGTT ATACATTCAA ATGACTGAAC    250
ATCCTGTAAT TAAX                                          264
```

(2)   INFORMATION FOR SEQ ID NO:30:
    (i)   SEQUENCE CHARACTERISTICS:
        (A)   LENGTH: 181
        (B)   TYPE: nucleic acid
        (C)   STRANDEDNESS: double
        (D)   TOPOLOGY: linear
    (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:30:

```
TTTXCCCGGA AAAAAATAGG AAAGGGGGGG GGGCTAATCG GCAGGGAAGG    50
CCGCCCCGGA TAGCGGGCGG CAXAAGGAAT CAXAATTTCC AGGTCAGACG    100
GGCTGCAAGT TGCAGACCGT TAAAATCATC GGXXGGGGTG TCGTACCACA    150
CTTTACCTGC CGTCAGCCCG AGATTAAGTT G                       181
```

(2)   INFORMATION FOR SEQ ID NO:31:
    (i)   SEQUENCE CHARACTERISTICS:
        (A)   LENGTH: 181
        (B)   TYPE: nucleic acid
        (C)   STRANDEDNESS: double
        (D)   TOPOLOGY: linear
    (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:31:

```
TXTTXXXCGG AAAAAAATXG AAAGGGGGGG GGGCTAATCG GCAGGGAAGG    50
CCGCCCCGGA TAGCGGGCGG CAGAAGGAAT CAGAATTTCC AGGTCAGACG    100
GGCTGCAAGT TGCAGACCGT TAAAATCATC GGTTGGGGTG TCGTACCACA    150
CTTTACCTGC CGTCAGCCCG AGATTAAGTT G                       181
```

(2)   INFORMATION FOR SEQ ID NO:32:
        (i)   SEQUENCE CHARACTERISTICS:
                (A)   LENGTH: 177
                (B)   TYPE: nucleic acid
                (C)   STRANDEDNESS: double
                (D)   TOPOLOGY: linear
        (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:32:

TTTXCCGGAA AAAAATXGAA AGGGGGGGGC TAATCGGCAG GGAAGGCCGC   50
CCCGGATAGC GGGCGGCAGA AGGAATCAGA ATTTCCAGGT CAGATGGGCT   100
GCAAGTTGCA GACCGTTATA ATCATCGGTT GGGGTGTCGT ACCACACTTT   150
ACCTGCCGTC AGCCCGAGAT TAAGTTG   177

(2)   INFORMATION FOR SEQ ID NO:33:
        (i)   SEQUENCE CHARACTERISTICS:
                (A)   LENGTH: 182
                (B)   TYPE: nucleic acid
                (C)   STRANDEDNESS: double
                (D)   TOPOLOGY: linear
        (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:33:

TXTXCGGAAA AAAAXAGGAA AGGGGGGGGG GCTAATCGGC AGGGAAGGCC   50
GCCCCGGATA GCGGGCGGCA GAAGGAATCA GAATTTCCAG GTCAGACGGG   100
CTGCAAGTTG CAGACCGTTA AAATCATCGG TTGGGGTGTC GTACCACACT   150
TTACCTGCCG TCAGCCCGAG ATTAAAGTTT GG   182

(2)   INFORMATION FOR SEQ ID NO:34:
        (i)   SEQUENCE CHARACTERISTICS:
                (A)   LENGTH: 175
                (B)   TYPE: nucleic acid
                (C)   STRANDEDNESS: double
                (D)   TOPOLOGY: linear
        (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:34:

XCGGAAAAAA ATGAAAGGGG GGGGGCTAAT CGGCAGGGAA GGCCGCCCCG   50
GATAGCGGGC GGCAGAAGGA ATCAGAATTT CCAGGTCAGA TGGGCTGCAA   100
GTTGCAGACC GTTATAATCA TCGGTTGGGG TGTCGTACCA CACTTTACCT   150
GCCGTCAGCC CGAGATAAAG TTTGG   175

(2)   INFORMATION FOR SEQ ID NO:35:
        (i)   SEQUENCE CHARACTERISTICS:
                (A)   LENGTH: 174
                (B)   TYPE: nucleic acid
                (C)   STRANDEDNESS: double
                (D)   TOPOLOGY: linear
        (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:35:

CGGAAAAAAA TGAAAGGGGG GGGGCTAATC GGCAGGGAAG GCCGCCCCGG   50
ATAGCGGGCG GCAGAAGGAA TCAGAATTTC CAGGTCAGAT GGGCTGCAAG   100
TTGCAGACCG TTATAATCAT CGGTTGGGGT GTCGTACCAC ACTTTACCTG   150
CCGTCAGCCC GAGATAAAGT TTGG   174

(2)   INFORMATION FOR SEQ ID NO:36:
        (i)   SEQUENCE CHARACTERISTICS:
                (A)   LENGTH: 182
                (B)   TYPE: nucleic acid
                (C)   STRANDEDNESS: double
                (D)   TOPOLOGY: linear
        (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:36:

XXXXXXXXXX XAAAAAAXXG AAAXXGGGGG GGGCTAATCG GCAGGGAAGG   50
CCGCCCCGGA TAGCGGGCGG CAGAAGGAAT CAGAATTTCC AGGTCAGAXG   100
GGCTGCAAGT TGCAGACCGT TAXAATCATC GGTTGGGGTG TCGTACCACA   150

CTTTACCTGC CGTCAGCCCG AGATXAAGTT XG   182

(2)   INFORMATION FOR SEQ ID NO:37:
         (i)   SEQUENCE CHARACTERISTICS:
                  (A)   LENGTH: 8
                  (B)   TYPE: nucleic acid
                  (C)   STRANDEDNESS: single
                  (D)   TOPOLOGY: linear
         (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:37:
GGGGGGGG 8

(2)   INFORMATION FOR SEQ ID NO:38:
         (i)   SEQUENCE CHARACTERISTICS:
                  (A)   LENGTH: 9
                  (B)   TYPE: nucleic acid
                  (C)   STRANDEDNESS: single
                  (D)   TOPOLOGY: linear
         (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:38:
GGGGGGGGG 9

(2)   INFORMATION FOR SEQ ID NO:39:
         (i)   SEQUENCE CHARACTERISTICS:
                  (A)   LENGTH: 10
                  (B)   TYPE: nucleic acid
                  (C)   STRANDEDNESS: single
                  (D)   TOPOLOGY: linear
         (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:39:
GGGGGGGGGG 10

(2)   INFORMATION FOR SEQ ID NO:40:
         (i)   SEQUENCE CHARACTERISTICS:
                  (A)   LENGTH: 4
                  (B)   TYPE: nucleic acid
                  (C)   STRANDEDNESS: single
                  (D)   TOPOLOGY: linear
         (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:40:
TAAA 4

(2)   INFORMATION FOR SEQ ID NO:41:
         (i)   SEQUENCE CHARACTERISTICS:
                  (A)   LENGTH: 4
                  (B)   TYPE: nucleic acid
                  (C)   STRANDEDNESS: single
                  (D)   TOPOLOGY: linear
         (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:41:
TTAA 4

(2)   INFORMATION FOR SEQ ID NO:42:
         (i)   SEQUENCE CHARACTERISTICS:
                  (A)   LENGTH: 5
                  (B)   TYPE: nucleic acid
                  (C)   STRANDEDNESS: single
                  (D)   TOPOLOGY: linear
         (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:42:
TTAAA 5